

# PHASE 1- BROWNS GULCH CHANNEL STABILIZATION

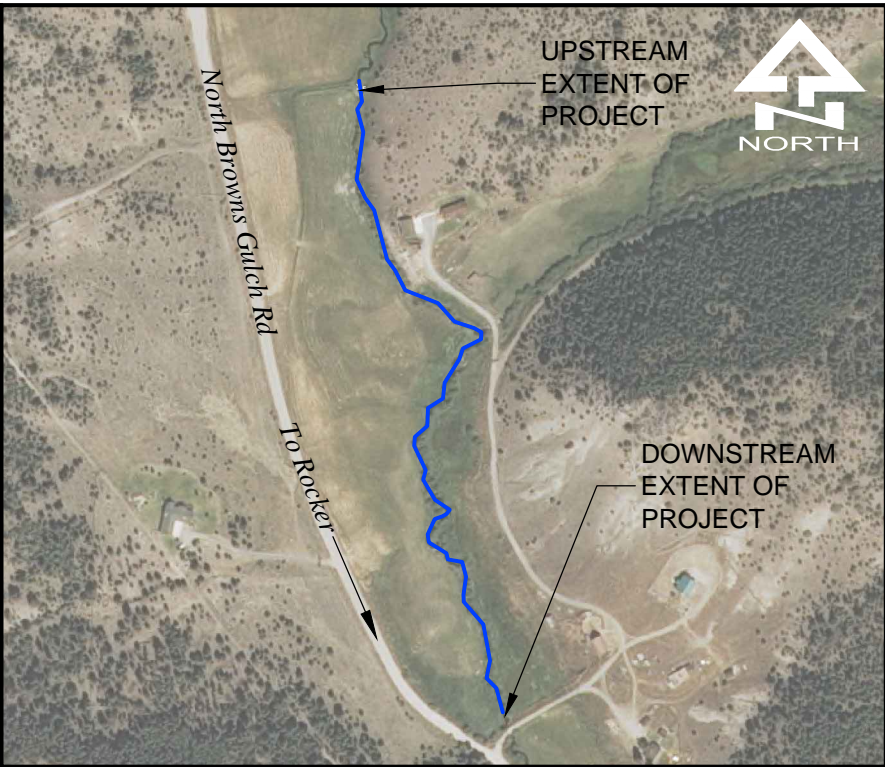
## MALYEVAC PROPERTY CHANNEL RESTORATION

LOCATED IN SECTION 29, TOWNSHIP 4N, RANGE 8W  
LATITUDE = 46.0699 NORTH; LONGITUDE = 112.6136 WEST  
SILVER BOW COUNTY, MONTANA

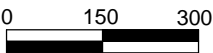
OWNER: MALYEVAC PROPERTY  
COOPERATING PARTNERS: MILE HIGH CONSERVATION DISTRICT & WATERSHED RESTORATION COALITION  
MAY 29, 2012



VICINITY MAP




2011 N.A.I.P. AERIAL IMAGE

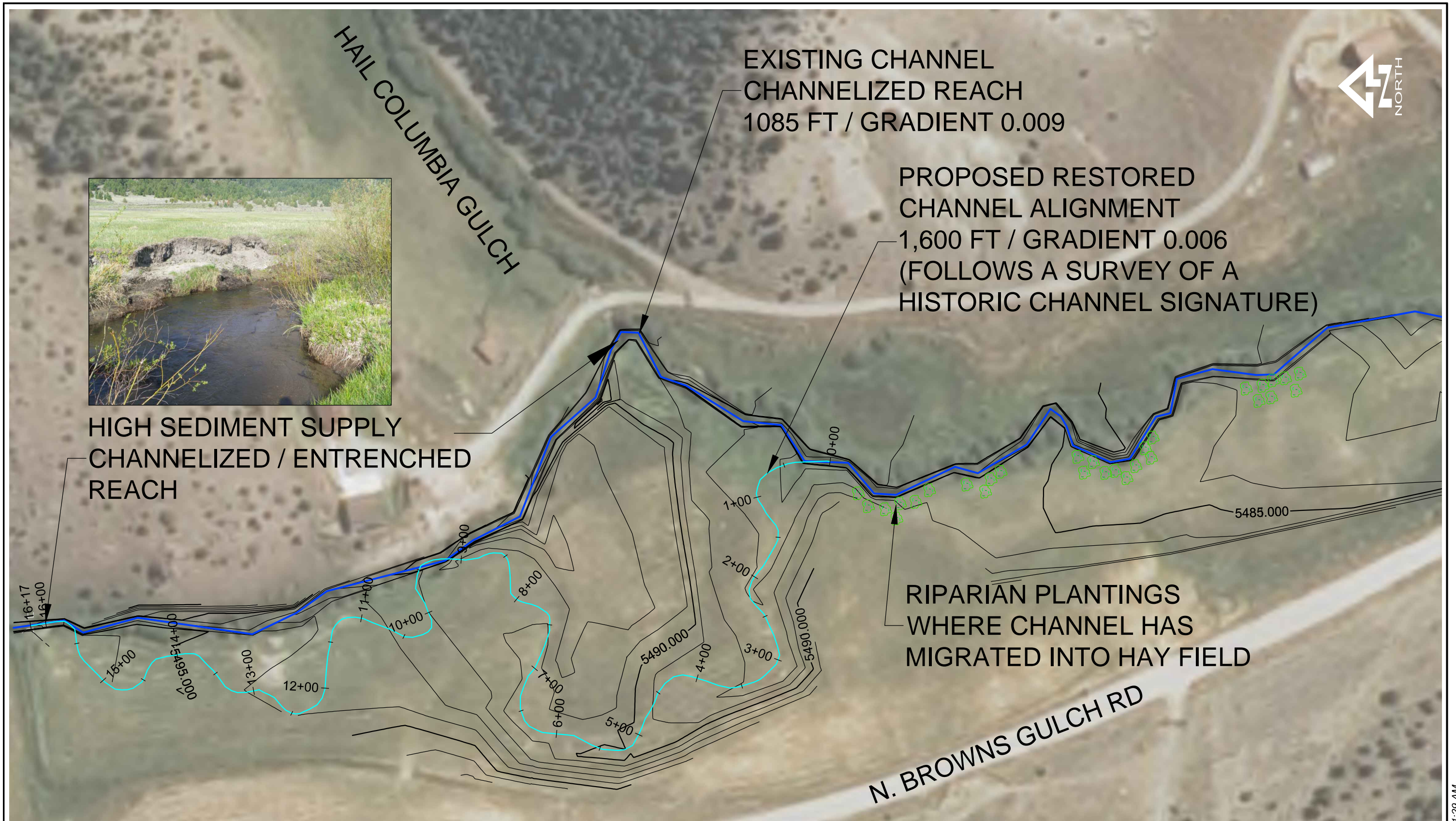


SHEET INDEX:

- C1 VICINITY MAP & SHEET INDEX
- C2 EXISTING AND PROPOSED PLAN
- C3 TYPICAL CROSS SECTIONS

	DATE: 5/29/2012	REV NO.	REVISION DESCRIPTION	BY	REVISION DATE	VICINITY MAP & SHEET INDEX	SHEET  C1
	CHKD: DB						
	DRAWN: TC						
	PROJ. No.: 0165492						
	PO Box 582 Livingston, MT 59047 (406) 222 7600						
	MALYEVAC PROPERTY CHANNEL RESTORATION ROCKER, MONTANA						





DATE: 5/29/2012  
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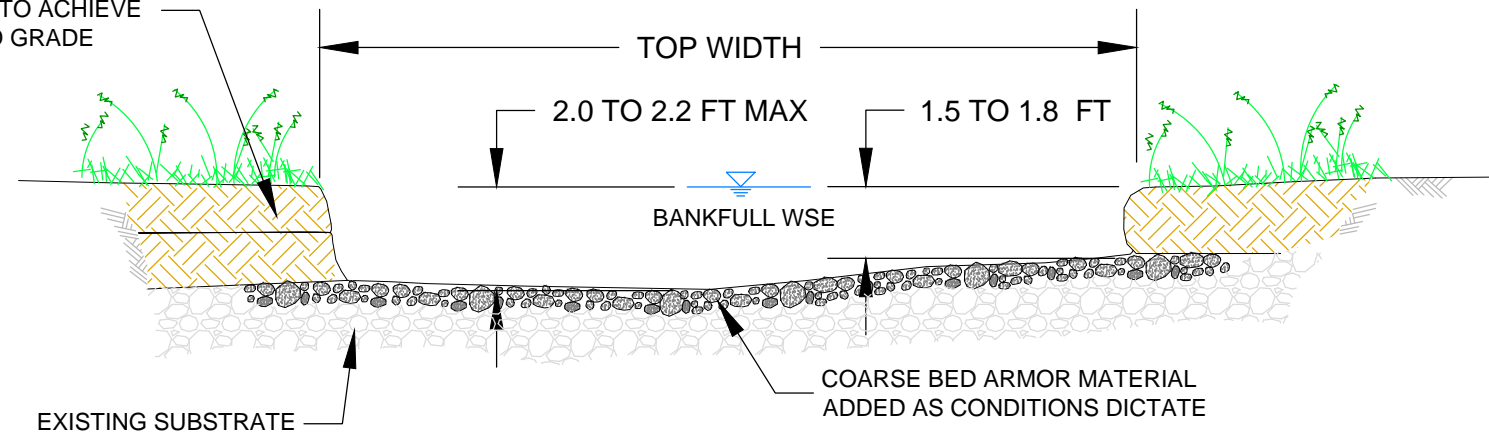
REV NO.	REVISION DESCRIPTION	BY	REVISION DATE

EXISTING AND PROPOSED PLAN  
RELOCATION AND ENHANCMENT  
MALYEVAC PROPERTY CHANNEL RESTORATION  
ROCKER, MONTANA

SHEET  
C2



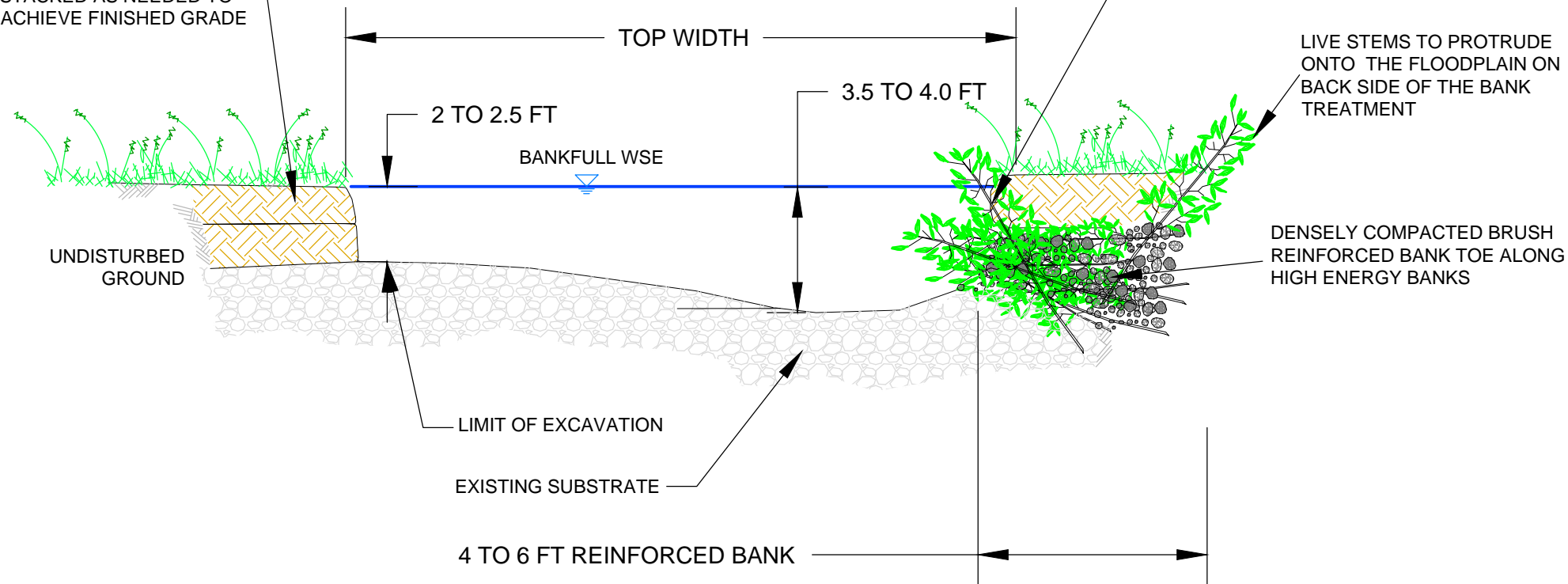
NATIVE SOD FROM  
REALIGNMENT  
CORRIDOR STACKED AS  
NEEDED TO ACHIEVE  
FINISHED GRADE



CHANNEL CHARACTERISTICS		
	BROWNS GULCH ABOVE HAIL COLUMBIA	BROWNS GULCH BELOW HAIL COLUMBIA
TOP WIDTH (FT)	10 TO 12	12 TO 14
AVERAGE DEPTH (FT)	1.8	2.0
WIDTH TO DEPTH RATIO	6 TO 8	6 TO 8
D <sub>50</sub> SUBSTRATE	GRAVEL	GRAVEL
SINUOSITY	1.5	1.5
ENTRENCHMENT RATIO	5 TO 8	5 TO 8
SLOPE	0.0060	0.0040
CHANNEL CLASSIFICATION (ROSGEN) - E4		

DESIGN FLOOD FREQUENCY - ABOVE HAIL COLUMBIA		DESIGN FLOOD FREQUENCY - BELOW HAIL COLUMBIA	
Q <sub>bank</sub>	70	Q <sub>bank</sub>	100
Q <sub>2</sub>	84	Q <sub>2</sub>	121
Q <sub>5</sub>	154	Q <sub>5</sub>	219
Q <sub>10</sub>	210	Q <sub>10</sub>	296
Q <sub>25</sub>	286	Q <sub>25</sub>	402
Q <sub>50</sub>	347	Q <sub>50</sub>	485
Q <sub>100</sub>	409	Q <sub>100</sub>	570

NATIVE SOD FROM  
REALIGNMENT CORRIDOR  
STACKED AS NEEDED TO  
ACHIEVE FINISHED GRADE



DATE: 5/29/2012  
CHKD: DB  
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REV NO.	REVISION DESCRIPTION	BY	REVISION DATE

## TYPICAL CROSS SECTIONS

MALYEVAC PROPERTY CHANNEL RESTORATION  
ROCKER, MONTANA

SHEET

C3